greatly impacts their quality of life. Bedside nurses accompany these patients and families on this journey and while educating and providing comfort along the way, these nurses advocate for assistance with the larger multidisciplinary team to address the patient and family's concerns of comfort, quality of life, and possible outcomes.

The PBMTU Quality of Life Project (QoL) was created to empower the nurse to better identify, communicate, and assist the family's daily quality of life needs. The goal of the QoL Project is to improve communication between patients, families, and the multidisciplinary medical care team, ensuring that conversations regarding quality of life occur, are conveyed and understood by the entire team, and a plan is developed which is tailored to that specific patient and family's desires. This ensures the path the patient follows is one that has been fully understood and agreed upon by them and their family, taking all factors into consideration. In turn, having the entire medical team updated on the patient's and families QoL choices gives the nursing staff relief knowing that these issues have been addressed and the knowledge to continue caring for the patients effectively and with regard to their specific desires.

The QoL Project was submitted to the PBMT Program's Medical Director in July 2009. After approval an assessment survey was completed with the nursing staff in August 2009. The results of the survey were presented to the entire PBMT Program which generated many ideas and increased awareness for areas of improvements. After six months of QoL interventions, in March 2010 the survey was repeated. A comparison of the two surveys, review of the interventions and goals for the future were presented to the medical team in May 2010. The QoL Project was so successful that it has continued to grow and is having a positive impact on the unit.

The oral presentation will begin with a slide show describing the history, comparisons the two surveys, interventions, and suggestions for the future, after which a discussion will take place.

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MANAGEMENT OF NAUSEA AND VOMITING IN THE PEDIATRIC BLOOD AND MARROW TRANSPLANT SETTING – ARE WE COVERING ALL OF OUR BASES? A NURSING PERSPECTIVE

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The challenge of managing nausea and vomiting (N/V) in the pediatric blood and marrow transplant (BMT) setting is compounded by multiday chemotherapy/radiation regimens and concomitant treatments unique to the BMT process. Younger age has been identified as a particular risk for chemotherapy induced N/V thus increasing the challenge further. An understanding of emetic pathways affected by these treatments and medications recommended for each is essential to manage N/V effectively. Several organizations have developed guidelines for antiemetic treatment. Many recommendations are based on identification and blockage of emetic pathways. While some organizations briefly address antiemetic recommendation for the pediatric population, none provide guidelines for pediatric antiemetic recommendations in the BMT setting.

An evidence based practice group consisting of 13 pediatric BMT nurses, one data manager, one supportive assistant and one pediatric BMT nurse practitioner conducted a single institutional chart review. Available medical charts of pediatric patients transplanted at Alabama's Childrens Healthcare System between Jan 2008 and April 2010 were reviewed to assess efficacy of N/V management. A comparison of treatments to present adult guidelines was completed. Emetogenic potential for each preparative regimen was graded using Hesketh's algorithm for defining emetogenicity of combination regimens. The Common Terminology Criteria for Adverse Events v3.0 (CTCAE) was utilized as a guideline to evaluate severity of daily N/V.

Results of the chart review prompted a search of literature that may provide information for treatment of N/V specific to the pediatric population in the BMT setting. There were few articles addressing concerns of N/V in the pediatric population. It is the recommendation of the EBP group that focus on research specific to management of N/V in the pediatric BMT population become a priority facilitating development of Antiemetic Guidelines specific to the BMT pediatric population.

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THE POWER OF PROCESS IMPROVEMENT METHODOLOGY ON A HIGHLY COMPLEX PEDIATRIC BONE MARROW TRANSPLANT UNIT'S CATHETER ASSOCIATED BLOOD STREAM INFECTION RATES

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Cincinnati Children's Hospital Medical Center (CCHMC) has instituted a major safety initiative to reduce central venous catheter (CVC) blood stream infections (BSI). A multidisciplinary approach utilizing quality improvement methodology was implemented initially in the PICU, leading to the development of a CVC maintenance bundle.

With the bundle's success, it was spread to CCHMC's BMT program that had the highest CVC BSI rates. The program, a highly complex intensive care environment, completed 108 transplants in 2009 with approximately 70% unrelated, 10% matched sibling and 20% autologous. Until this point, line infections were viewed as a direct treatment result leading to mucositis and increased vulnerability to infection.

Initial support of this initiative was met with much resistance. Ongoing communication regarding bundle progress and staff involvement in the initiative through a unit based task force and a national collaborative resulted in an augmented bundle. A significant culture change with acceptance occurred as well. Staff has embraced responsibility for overall line infection rates and proactively identifies infection prevention opportunities.

Ongoing tests of change created an enhanced bundle addressing the unique challenges of a highly immune compromised population. The bundle has evolved and includes line entry minimization, daily line assessment, hand hygiene and site, line, and cap care practices. The tests included evidence based product changes and review of catheter and line practices. Specifically, weekly dressing changes, the use of a biopatch, an occlusive transparent dressing, gloving with all line care, a 30 second chlorhexidine scrub with every line entry, use of a positive pressure cap and masking of all parties during sterile procedures were additional bundle elements.

CVC BSI rates have changed significantly. In 2006, the rate reached 6.35 infections per 1000 catheter days. As of June 2010, the rate was reduced to 1.68 infections per 1000 catheter days resulting in a 74% rate reduction.

Table 1. Cincinnati Children's Hospital Medical Center Bone Marrow Transplant Unit CVC BSI Rates

FY (July-June)	CVC BSI Per 1000 Line Days
2005	5.45
2006	6.35
2007	4.83
2008	4.31
2009	1.98
2010	1.68

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INCREASED MOBILITY AND COMMITMENT TO EXERCISE DURING HOSPITALIZATION HAS A POSITIVE EFFECT ON OUTCOMES FOR BONE MARROW TRANSPLANT PATIENTS AT UNIVERSITY OF ALABAMA HOSPITAL

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The Bone Marrow Transplant program staff at the University of Alabama Hospital used a collaborative partnership approach with their patients to increase and record physical activity in order to improve clinical outcomes. Participants were encouraged to walk laps around the unit and record their progress. Exercising in the hallways

of the unit enabled them to increase their physical activity while staying in an area of modified protective isolation to protect their immunity. The nursing staff of the BMT unit took a physical fitness instructor approach to selected patients beginning with their admission. A formal contract was signed by the patients with an agreement to participate in the project. Physical activity goals were set with the BMT patients on admission and were then measured daily. The unit was marked off with indicators for measuring distance for those who chose to walk the hallways to increase their physical activity. Exercise bicycles were also available for use and time used was measured. Achieved goals were celebrated by the unit and prizes were given for overall patients who met their goals. Outcomes were measured against previous quarter Bone Marrow Transplant program data in which physical activity was suggested but without the special attention and extra encouragement that was given during the project. Postive correlations were measured between the increased physical activity and length of stay, deep vein thrombosis incidence, engraftment date, pneumonia incidence, bacteremia, fever, and complaints of insomnia. The results revealed a decrease in complaints of insomnia due to increased activity during the day and more sleep during the night. There was no incidence of pneumonia in these selected patients. More research is needed to validate findings and project is currently ongoing.

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MAKING A DIFFERENCE: DEVELOPMENT AND IMPLEMENTATION OF A POST-INSERTION CENTRAL LINE CARE BUNDLE IN HSCT PATIENTS

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Patients undergoing hematopoietic stem cell transplantation (HSCT) are at risk for multiple life-threatening complications during and following treatment, including catheter related bloodstream infections (CRBSIs). In 2009, we noted a hospital wide increase in CRBSIs. To address this concerning trend, our HSCT unit initiated a program to minimize this impact for our patients. We conducted an initial literature review that included gathering data from other similar care units. We developed and piloted two tracking tools to monitor compliance with the current dressing change, cap change, and implanted port needle change policies. After implementation, we selected the more useful of the two tools to move forward. Following our initial data collection, we initiated a new standard of care for HSCT patients on our unit and monitored compliance and CRBSIs for a proposed period of 12 months. To date (January-September 2010), we have had 2 documented CRBSIs in our inpatient population,that is far below the national average. This poster presentation will highlight the process we undertook to impact CRBSIs in our HSCT population, including tool development, our evidence-based dressing change procedure, and finally, nursing and patient education.

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EDUCATING PEDIATRIC OUTPATIENT NURSES TO THE UNIQUE CHALLENGES OF REDUCED INTENSITY TRANSPLANT CONDITIONING (RIC) REGIMEN IN CHILDREN WITH NON-MALIGNANT DISORDERS

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In recent years, many advances have been made in the field of hematopoietic stem cell transplantation, an important treatment option for children with certain malignant and non-malignant diseases. Unrelated umbilical cord blood (UCB) is a viable donor source for hematopoietic reconstitution for these patients due to its rich numbers of stem and progenitor cells, and its tolerance to HLA mismatches. Traditionally, the pediatric conditioning regimens have been myeloablative, which are associated with significant acute and long-term toxicities. Recently, RIC regimens have proven to provide sufficient immunosuppression to attain acceptable rates of donor cell engraftment in patients with certain diseases. However, use of these regimens using cord blood donors has been challenging because of higher rates of graft failure. The PBMT program at Duke is testing a new transplant protocol for children with non-malignant diseases using UCB donors and slightly lower intensity chemotherapy that is more immunosuppressive.

The Duke RIC consists of alemtuzumab, hydroxyurea (HU), fludarabine (FLU), melphalan, and thiotepa. A portion of the conditioning therapy (alemtuzmab, HU and FLU) is completed in our outpatient day hospital. Clinic nurses are responsible for coordinating adequate staffing, educating patients and families, and administering alemtuzumab and FLU. Oral HU involves collaborating with mid-level providers for monitoring patient's blood counts and educating families if dose adjustments are needed. Although clinic nurses will have general knowledge of immunosuppression and potentially reactive medications, there are some unique challenges pertaining to reduced intensity transplant that require specific education.

We will highlight the key points related to outpatient nursing care of pediatric patients undergoing reduced intensity transplants at Duke University Hospital. This will include comprehensive education on medication administration and practice standards with a special focus on alemtuzumab safety as it applies to the pediatric patient in the clinic setting. Additionally we will review precautions for neutropenic and immunodeficient patients. Patient education will be designed to minimize potential side effects and to ensure patient safety. Following our presentation, nurses are expected to have a broader understanding of reduced intensity transplant, specific patient care needs, and family education pertinent to our reduced intensity protocol.

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IMPLEMENTING A BONE MARROW BIOPSY PERFORMANCE IMPROVEMENT PLAN: FOCUS ON EXCELLENCE

Rimkus, C., Ward, V., Press, B., Cliver, P., Garavaglia, K., Wischmeier, J., Wilson, C., Divanbeigi, J. Washington University, St. Louis, MO

Bone marrow biopsies and aspirates (BMBA) have traditionally been performed by Licensed Independent Practitioners. In 1994, two large academic centers in a Midwestern metropolitan city identified the need for registered nurses (RN) to help with BMBA. These academic centers cooperated and submitted the paperwork to the State Board of Nursing requesting the expansion of scope to allow specially trained RN's to perform BMBA. After the State Board approved this request, one of the academic centers implemented an RN run outpatient BMBA program. The program started with one RN and has expanded to six RN's who rotate through the biopsy center as well as administer chemotherapy. These RN's perform over 1500 BMBA annually. Over the past few years, the program has rapidly expanded leading to challenges offering opportunities for improvement. The Advanced Practice Nurse (APN) worked with the BMBA nursing team to embark on a project to evaluate BMBA and initiate process improvement (PI) as indicated. The APN presented a proposal to the physician team and the stem cell transplant QI committee. The proposal was accepted and welcomed by all. The PI group reviewed every aspect of BMBA and identified opportunities for improvement including; need for formal ongoing training regarding new testing and discussion sessions with pathology, flow and cytogenetic laboratories; improving the accuracy of orders for special testing written by the physician teams; identifying patient scheduling and coordination errors; and lack of standardized nursing pre procedure assessment. These challenges became more pronounced when training new staff to do BMBA. The second step has been to implement processes based on the opportunities including; the development of a pre procedure assessment consistent with national standards; a specific BMBA consent form; a patient survey to determine patient satisfaction with RN BMBA, an agreed upon revised order set that doubles as the lab requisition; an inservice for the RN's with the pathology department and scheduled rotations through the different labs as well as the implementation of an error reporting system. Outcomes thus far include; a decrease in the number of